

GIL.P.US0016

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

INTERNATIONAL FILING DATE

3 March 2000

PRIORITY DATE CLAIMED

3 March 1999

SADDLES FOR PEDAL-OPERATED MACHINES

BRIAN ANTHONY COX

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:
Bibliographic Data Sheet
Copy of Filed International Application No.
PCT/GB00/00774 with International Search Report
Copy of International Preliminary Examination Report
Check in the amount of \$430.00

U.S. APPLICATION NO. (if known, use 37 CFR 1.53) 09/914828		INTERNATIONAL APPLICATION NO. PCT/GB00/00774		ATTORNEY'S DOCKET NUMBER GIL.P.US0016	
17. <input checked="" type="checkbox"/> The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$970.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$840.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$690.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$670.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$96.00				CALCULATIONS PTO USE ONLY	
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$ 860.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	16 - 20 =	0	X \$18.00	\$	0
Independent claims	1 - 3 =	0	X \$78.00	\$	0
+ MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$260.00	\$	
TOTAL OF ABOVE CALCULATIONS =				\$ 860.00	
Reduction of 1/2 for filing by small entity, if applicable. A Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28).				\$ 430.00	
SUBTOTAL =				\$ 430.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
TOTAL NATIONAL FEE =				\$	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$	
TOTAL FEES ENCLOSED =				\$ 430.00	
				Amount to be refunded: \$	
				charged: \$	
a. <input checked="" type="checkbox"/> A check in the amount of \$ 430.00 to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 18-0987 . A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO: Rodney L. Skoglund, Esq. Renner, Kenner, Geive, Bobak, Taylor & Weber 1st National Tower, 4th Floor Akron, OH 44308					
				SIGNATURE <i>Rodney L. Skoglund</i> Rodney L. Skoglund NAME 36,010 REGISTRATION NUMBER	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of)

BRIAN ANTHONY COX)

International App. No. PCT/GB00/00774)

Internationally Filed 3 March 2000)

For SADDLES FOR PEDAL-OPERATED
MACHINES)

**CERTIFICATE OF MAILING
VIA EXPRESS MAIL**

I hereby certify that this correspondence was deposited with the United States Postal Service as Express Mail, in an envelope addressed to: BOX PATENT APPLICATION, Assistant Commissioner for Patents, Washington, D.C. 20231, on August 31, 2001.

Faye Leppia
Faye Leppia, Secretary of Rodney L. Skoglund
Express Mail Label No. EL725990384US

PRELIMINARY AMENDMENT

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

The Applicant, through his attorney, requests that the following amendments be entered prior to examination and prior to calculation of the fee. For clarification, the Applicant acknowledges that the claims which are being amended are based upon the claims as filed internationally.

In the claims

Please amend claims 3, 6, 9, 11, and 14-16 as follows:

3. A saddle as claimed in claim 1, wherein the mounting arrangement includes a mounting bracket to permit the mounting of the saddle on the machine.
6. A saddle as claimed in claim 4, wherein the track is in the form of a rail mounted on one of the seat portion and the bracket, and the other of the seat portion and the bracket has at least two rollers which run on the rail.
9. A saddle as claimed in claim 4, wherein the track defines a channel-shaped groove and there are at least two rollers which run in the groove.

11. A saddle as claimed in claim 4, wherein the bracket is connected to the track and the seat portion is provided with said rollers which run on the track.
14. A saddle as claimed in claim 1, wherein the seat portion is resiliently biased to a central position and moves against that bias when performing a rocking motion.
15. A saddle as claimed in claim 1, wherein the radius of curvature of the rocking movement of the seat portion lies in the range of 175 to 250mm.
16. A pedal-operated machine having a saddle as claimed in claim 1.

REMARKS

The amendments presented hereinabove have been made in order to eliminate multiple dependencies on some of the claims. As these amendments do not add new subject matter, is it respectfully requested that they be entered. Upon entering the amendments, claims 1-16 will now be pending. A Notice of Allowance of these claims is earnestly solicited. Should the Examiner care to discuss any of the foregoing in greater detail, the undersigned attorney would welcome a telephone call.

Respectfully Submitted,

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Attorney for Applicant

August 31, 2001

MARKED-UP VERSION OF THE CLAIMS
International App. No. PCT/GB00/00774

Please amend claims 3, 6, 9, 11, and 14-16 as follows:

3. A saddle as claimed in claim 1 [or claim 2], wherein the mounting arrangement includes a mounting bracket to permit the mounting of the saddle on the machine.
6. A saddle as claimed in claim 4 [or claim 5], wherein the track is in the form of a rail mounted on one of the seat portion and the bracket, and the other of the seat portion and the bracket has at least two rollers which run on the rail.
9. A saddle as claimed in claim 4 [or claim 5], wherein the track defines a channel-shaped groove and there are at least two rollers which run in the groove.
11. A saddle as claimed in [any of claims 4 to 10] claim 4, wherein the bracket is connected to the track and the seat portion is provided with said rollers which run on the track.
14. A saddle as claimed in [any of the preceding claims] claim 1, wherein the seat portion is resiliently biased to a central position and moves against that bias when performing a rocking motion.
15. A saddle as claimed in [any of the preceding claims] claim 1, wherein the radius of curvature of the rocking movement of the seat portion lies in the range of 175 to 250mm.
16. A pedal-operated machine [whenever provided with] having a saddle as claimed in [any of the preceding claims] claim 1.

SADDLES FOR PEDAL-OPERATED MACHINES

This invention relates to a saddle for a pedal-operated machine, and in particular - but not exclusively - to a saddle for a bicycle, tricycle, exercise bicycle or the like.

- 5 The saddle of this invention is primarily intended for use with a bicycle, which will hereinafter be referred to simply as a "cycle". Though the invention will hereinafter be described exclusively with reference to cycles, it is to be understood that the saddle is suitable for use on a wide variety of pedal-operated machines including those mentioned above and the term "cycle" is
- 10 not to be understood as limiting the invention to bicycles.

- The function of a cycle saddle is to support the greater part of the rider's weight and at the same time to restrain the rider's seat slipping off the saddle while leaving his or her legs free to rotate the pedals. A conventional cycle saddle has a rearward, relatively broad platform on which the inner part of the
- 15 buttocks of a rider may rest, the platform merging into a single forwardly-projecting relatively narrow saddle horn. The primary function of the horn is to prevent the rider slipping off the saddle but in practice much of the rider's weight may be carried by the horn. Unfortunately, a rider may suffer physical problems or other medical consequences from prolonged or excessive cycling on a conventional saddle of this kind, due to the pressure exerted by the horn
- 20 on the rider's crotch.

- There have been proposals for hornless saddles for cycles, which aim at minimising the likelihood of problems which may arise consequent upon extensive use of a horned saddle. There have moreover been proposals for
- 25 saddles which may move, or have relatively moveable parts, aimed at making the riding of a cycle more comfortable, or less tiring. However, all of these saddles suffer from various disadvantages including quite often a feeling of insecurity for the rider.

- It is a principal aim of the present invention to provide a cycle saddle
- 30 which is able to support the buttocks of a rider in a particularly comfortable and effective manner, and which does not restrict the free movement of the legs to rotate the pedals of the cycle.

According to the present invention, there is provided a saddle for a pedal-operated machine, which saddle has a seat portion having an upper surface for supporting the buttocks of a user and a mounting arrangement for the seat portion which mounting arrangement permits the seat portion to perform a lateral rocking motion the effective axis of which is disposed above the upper surface of the seat portion.

When a rider is pedalling a cycle, his hips perform a kind of rolling action with the pelvis rocking from side to side. The saddle of the present invention allows that pelvic action to occur in a natural and unrestricted way, assisting the application of the maximum driving force to the down-going pedal of the cycle. This is because the saddle may rock in such a way that the side of the saddle on the same side of the cycle as the down-going pedal moves downwardly with respect to the other side of the saddle, so not restricting the movement of the leg on the down-going pedal. The opposite side of the saddle rises slightly so better accommodating the weight of the rider on that buttock on that side of the saddle. Then, as the pedals rotate and the other pedal starts its down-going travel, the saddle may rock in the other sense, so freeing for easy movement the leg driving that other pedal.

In one embodiment, the saddle is mounted for movement laterally of a cycle and when performing that lateral movement, the saddle simultaneously undergoes a rotational motion about a centre of curvature above the upper surface of the saddle. In an alternative embodiment, the saddle is supported in such a way that it performs a pivoting action having a centre of curvature above the upper surface of the saddle. In this case, though the saddle may move laterally to a small extent, the primary motion is one of pivoting about the centre of curvature above the upper surface.

Though the rocking motion has been described as having an effective axis above the upper surface of the saddle, the rocking motion could be a complex rocking motion and not a simple part-circular motion having a fixed centre of curvature. Thus, the effective centre of curvature for the rocking motion when of a complex form may itself be a locus, of arcuate shape.

The mounting arrangement advantageously includes a mounting means such as a bracket to permit the attachment of the saddle to a cycle - which

typically might be a bicycle or tricycle. Such a mounting means may be essentially conventional and so comprise a clamp adapted for tightening around a pillar generally-upwardly extending from a cycle frame.

In the first-mentioned embodiment, the mounting arrangement has a
5 track of generally arcuate form and which defines a path of movement for the seat portion of the saddle. Such a track may be in the form of an arc of a circle - that is, having a fixed radius - with the centre of the arc disposed above the upper surface of the saddle and extending essentially along the plane containing the frame of the cycle. Though that axis preferably is substantially
10 horizontal, it may extend at a small angle to the horizontal, in order to give the most effective support for a rider.

The track may be in the form of a rail mounted on the bracket of the mounting means, the seat portion having at least two rollers which run on the rail. Alternatively, the track could be provided on the underside of the seat
15 portion which track runs along suitable rollers provided on the bracket of the mounting means. In either case, the arrangement of the track and rollers allows the saddle to move laterally of the cycle to which it is attached, following the arcuate path defined by the rail and having an effective centre of curvature above the upper surface of the seat portion. In a preferred arrangement, the
20 rail has an upper surface and the rollers run along that upper surface. The rail may be of T-shaped cross-section with at least two further rollers arranged to run on the undersides of the rail, opposed to said at least two rollers, one to each side of the central web of the T-shaped rail. In this way, the seat portion may securely be located by the mounting means so as to be free for motion
25 along the length of the rail but restrained against movement in all other directions.

In the alternative, the track may define a channel-shaped groove and there are at least two rollers which run in the groove. Fully to locate the seat portion, there may be two channel-shaped grooves spaced apart in a direction
30 parallel to the axis of rocking movement of the seat portion, and rollers which run in each of the grooves. For such an arrangement, it is preferred for the openings to the two grooves to face each other so as to minimise the likelihood of the ingress of foreign matter, the trapping of fingers or the like.

The movement of the seat portion may be damped, for example by providing blocks of resiliently compressible material which tend to restrain the seat portion in its central position and movement away therefrom compresses one or another block. An alternative arrangement would be to provide springs
5 suitably arranged between the seat portion and the bracket of the mounting means.

In an alternative embodiment of the mounting arrangement, there are two links each connected at their upper ends to the saddle portion and at their lower ends to the mounting bracket, whereby the rocking motion is defined by
10 the combined action of the two links. Thus, there is defined a kind of four-bar linkage with the links forming two opposed sides of that linkage and which permits the saddle to perform a pivoting action though with some lateral translation. The links may be resiliently deformable, the lower ends thereof then being clamped to the mounting bracket, whereby the links are resiliently
15 deformed along their lengths, to permit the saddle to perform its rocking motion. This has the advantage that the saddle will be centred with respect to a cycle to which it is secured, when the saddle is not in use by a rider.

The radius of curvature of the rocking movement of the seat portion should be selected having regard to the intended use of the machine. For
20 example, in a case of a cycle intended for use by an adult, it is anticipated that the radius of curvature may be of the order of 200mm. For other intended uses, such as a cycle for a child, a different radius might be appropriate though it is envisaged that the radius of curvature should lie in the range of about 175-250mm.

25 This invention extends to a cycle whenever provided with a saddle of this invention as described above.

By way of example only, two specific embodiments of saddle of this invention will be described in detail, reference being made to the accompanying drawings, in which:-

30 Figure 1 is an end view on the important parts of the first embodiment of saddle;

Figures 2 and 3 are part-sections taken on lines II-II and III-III marked on Figure 1;

Figure 4 is a side view on the second embodiment of saddle;

Figure 5 is an end view on the saddle of Figure 4;

Figure 6 is a plan view on the mounting arrangement for the second embodiment, but with the saddle removed for clarity and shown in long chain
5 lines;

Figure 7 is a general perspective view of the saddle assembly of Figures
4 to 6;

Figure 8 shows the components of the second embodiment, in an exploded view;

10 Figures 9A and 9B show the saddle of Figures 4 to 8 respectively in a central position and moved laterally, to undertake a rocking action; and

Figure 10 illustrates the locus of movement of the saddle.

The saddle of this invention includes a mounting bracket 10 furnished with an adjustable clamp shown in Figures 1 and 2 and which is adapted for
15 attachment to the upper end of a saddle pillar of a cycle. Such a clamp forms no part of this invention and is well-known in the art; it will not therefore be described in further detail here. The bracket 10 carries a transversely extending rail 11 of T-shaped cross-section, with the web 12 of the rail extending generally vertically. The rail is of arcuate form, as shown in Figure 1,
20 though the radius of curvature has been exaggerated in that drawing and typically should be approximately 200mm. The centre of that curvature is thus positioned approximately 200mm above the centre of the mounting bracket 10.

The saddle has a seat portion which is shown only in outline in the drawings but which is appropriately configured to support the buttocks of a rider
25 of the cycle. Typically therefore the seat portion may be a padded platform which is secured to the upper surface 13 of a carriage 14 which is supported on the rail 11 so as to be able to run from side to side along the length of the rail. The carriage 14 has three rollers 15 which run on the upper surface 16 of the rail 11 and lower rollers 17 which run along the undersides of the flange 18 of
30 the rail 11.

The carriage 14 is generally of box-shaped cross-section but with a slot 19 in its lower face to accommodate the web 12 of the rail 11. Each roller 15 is supported on a pin extending between the side walls of the carriage and each

roller 17 is supported on a cantilevered pin extending inwardly from the respective side wall of the carriage.

In use, the clamp of the mounting bracket 10 is secured to the pillar of a cycle so that the web 12 of the rail extends generally in a vertical plane, transverse to the median plane of a cycle with which the saddle is used. Thus, the axis of the centre of curvature of the rail 11 will extend substantially horizontally, in that median plane of the cycle, so that the carriage 14 may rock from side to side with the rollers 15,17 running on the rail 11. As the carriage 14 is substantially closed, and may further be provided with end caps (not shown) closely to fit around the rail, the ingress of dirt or other foreign matter is minimised, as is the entrapment of fingers (for example) should the saddle move laterally other than when the cycle is being powered by a rider.

The saddle will rock from side to side as pedalling of the cycle is undertaken. The leg driving a down-going pedal will tend to depress that side of the saddle, so causing the saddle to rock to the other side of the cycle median plane and thus better to support the other buttock. Then, as the other pedal reaches top dead centre and becomes the down-going pedal, the saddle will run across the median plane of the cycle and allow the leg driving that pedal freely to move and so impart the maximum force to that pedal. Though not shown in this embodiment, springs may be disposed between the mounting bracket 10 and the carriage 14, so as to urge the carriage generally towards the central position shown in Figure 1, movement away from that central position being against the action of the spring force.

Referring now to Figures 4 to 10, there is shown a second embodiment of saddle of this invention and which has a similar action to that described above, but achieved in a different way. The saddle has a seat portion 20 shown in outline only in Figures 4 to 6 but shown in more detail in Figures 7 to 9. The seat portion 20 is essentially hornless but nevertheless has a small forwardly projecting portion 21, to assist location of a user on the saddle. To increase comfort, the saddle may be made of a slightly resilient material, or may be covered in such a material, in a manner known in the art.

A mounting arrangement is provided to secure the seat portion 20 to the upper end of a saddle pillar 22, which is of entirely conventional form and

normally comprises a part of a cycle on which the saddle is mounted. The mounting arrangement includes a pillar clamp 23 of U-shaped form and again of a generally conventional shape, and through which extends a clamp bolt 24 provided with a nut 25. Also disposed on the bolt 24 are two pairs of clamp
5 washers 26 and 27, respective mounting rods 28 and 29 being clamped between those pairs of washers 27.

Each mounting rod 28,29 has a U-shaped lower portion 30 in which is received the clamp bolt 24 and upwardly projecting side portions 31 having the end regions 32 turned over to face one another. Though the rearward side
10 portions 31 are essentially linear, the forward side portions are both inwardly curved, towards one another, as best seen in Figures 5 and 8.

Disposed on each end region 32 is a respective bush 33, received in a recess 34 provided in a mounting block 35 secured to the underside of the seat portion 20. The bushes 33 are retained in the recess by a plate 36, secured in
15 position by two bolts 37 passing through the plate into threaded holes in the block 35.

When fully assembled, the above-described mounting arrangement maintains the saddle centrally of the median plane of a cycle, as shown in Figures 5 and 9A. On riding a cycle fitted with the saddle, the leg driving the
20 down-going pedal, will tend to depress that side of the saddle, so causing the saddle to rock, as shown in Figure 9B, relieving pressure from the down-going leg and allowing the pelvis to move. This rocking action is performed by the rods 28 and 29 deforming resiliently to some extent, until an equilibrium position is reached. As the down-going pedal reaches bottom dead centre and the
25 other pedal top dead centre, a rider starts to press down on the other pedal and this allows the saddle to rock in the opposite sense, relieving pressure from the down-going leg. This rocking action is diagrammatically illustrated in Figure 10, which shows the locus of the end regions 32 of the rods 28 and 29. On a rider dismounting the cycle, the saddle will return to its central position as shown in
30 Figure 9A.

CLAIMS

1. A saddle for a pedal-operated machine, which saddle has a seat portion having an upper surface for supporting the buttocks of a user and a mounting arrangement for the seat portion which mounting arrangement permits the seat
5 portion to perform a lateral rocking motion the effective axis of which is disposed above the upper surface of the seat portion.
2. A saddle as claimed in claim 1, wherein the effective axis of rocking motion of the seat portion extends substantially horizontally.
3. A saddle as claimed in claim 1 or claim 2, wherein the mounting
10 arrangement includes a mounting bracket to permit the mounting of the saddle on the machine.
4. A saddle as claimed in claim 3, wherein the mounting arrangement includes a track of generally of arcuate form and which defines a curved path along which the seat portion may in use move.
- 15 5. A saddle as claimed in claim 4, wherein the track is of part-circular form, centred on an axis disposed above the upper surface of the seat portion.
6. A saddle as claimed in claim 4 or claim 5, wherein the track is in the form of a rail mounted on one of the seat portion and the bracket, and the other of the seat portion and the bracket has at least two rollers which run on the rail.
- 20 7. A saddle as claimed in claim 6, wherein the rail has an upper surface and said at least two rollers run on the rail upper surface.
8. A saddle as claimed in claim 7, wherein the rail is of T-shaped section with a flange projecting laterally from a central web and there are at least two further rollers disposed one to each side of the central web of the rail and
25 arranged to run on the undersides of the flange, in opposition to said at least two rollers.
9. A saddle as claimed in claim 4 or claim 5, wherein the track defines a channel-shaped groove and there are at least two rollers which run in the groove.
- 30 10. A saddle as claimed in claim 9, wherein there are two channel-shaped grooves spaced apart in a direction parallel to the axis of rocking movement of the seat portion, and there are rollers which run in both of the grooves.

11. A saddle as claimed in any of claims 4 to 10, wherein the bracket is connected to the track and the seat portion is provided with said rollers which run on the track.

12. A saddle as claimed in claim 3, wherein the mounting arrangement
5 includes two links each connected at their upper ends to the saddle portion and at their lower ends to the mounting bracket, whereby the rocking motion is defined by the combined action of the links.

13. A saddle as claimed in claim 12, wherein the links are resiliently deformable and lower ends thereof are clamped to the mounting bracket,
10 whereby the links are resiliently deformed as the saddle performs its rocking motion.

14. A saddle as claimed in any of the preceding claims, wherein the seat portion is resiliently biased to a central position and moves against that bias when performing a rocking motion.

15. A saddle as claimed in any of the preceding claims, wherein the radius of curvature of the rocking movement of the seat portion lies in the range of 175 to 250mm.

16. A pedal-operated machine whenever provided with a saddle as claimed in any of the preceding claims.

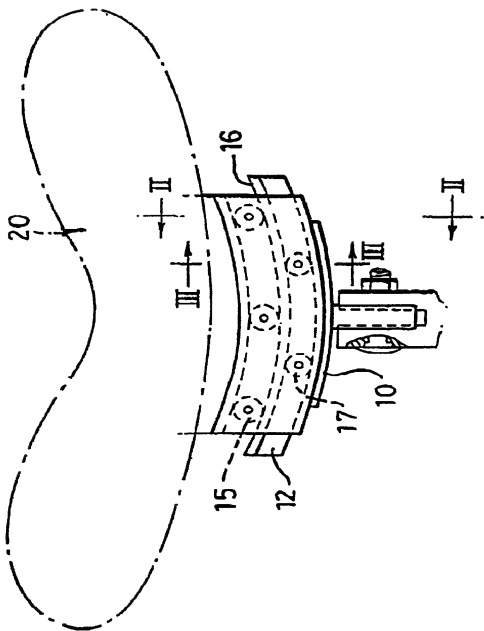
ABSTRACT

SADDLES FOR PEDAL-OPERATED MACHINES

- 5 A saddle 20 for a bicycle, tricycle, exercise cycle or the like has a mounting arrangement 23, 28 and 29 which permits the saddle 20 to rock from side to side as a rider pedals the cycle. The rocking motion has an effective centre above the surface of the saddle and the saddle is resiliently biased so as to return to its central position when the cycle is not being ridden.

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FIG.1



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FIG.2

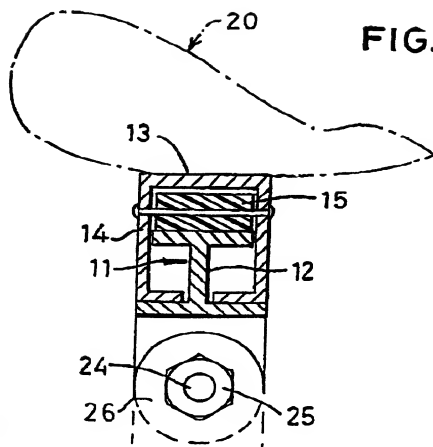
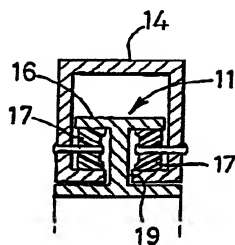


FIG.3

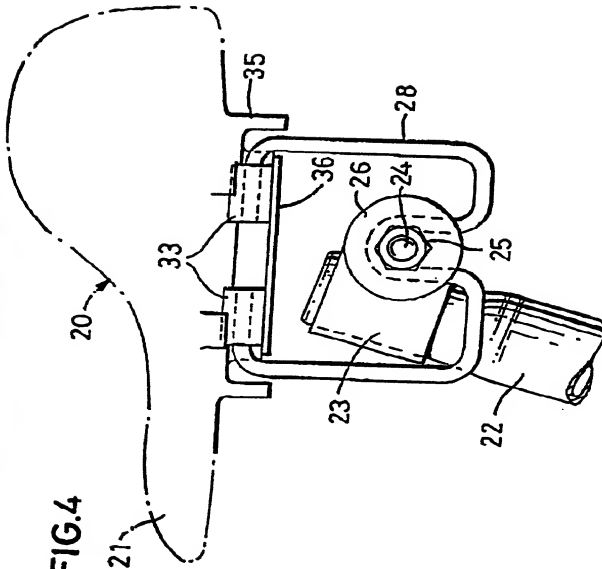


SUBSTITUTE SHEET (RULE 26)

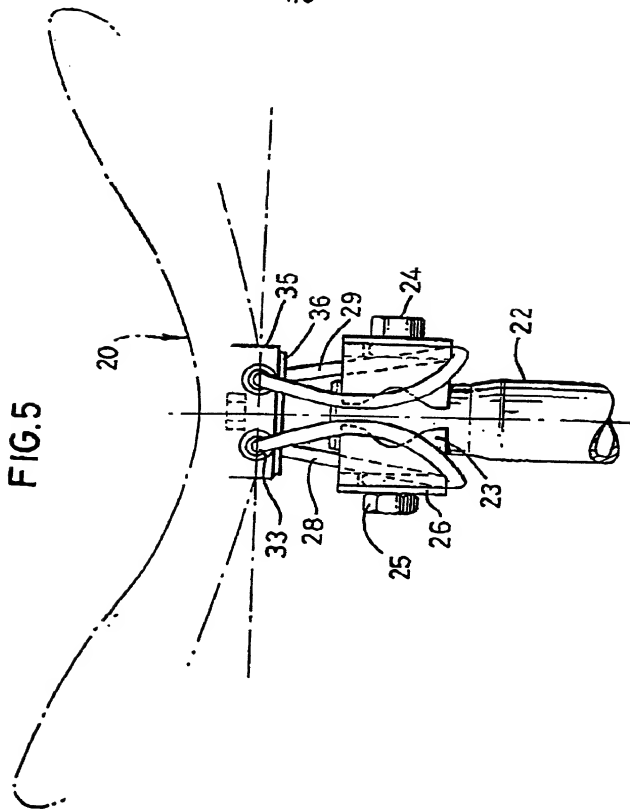
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FIG.4



SUBSTITUTE SHEET (RULE 26)

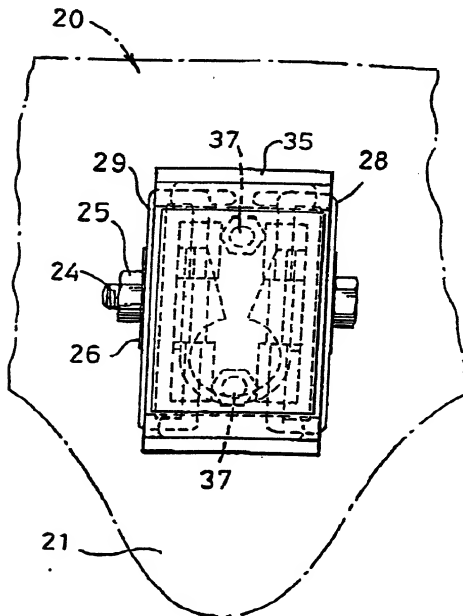


SUBSTITUTE SHEET (RULE 26)

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09/914828

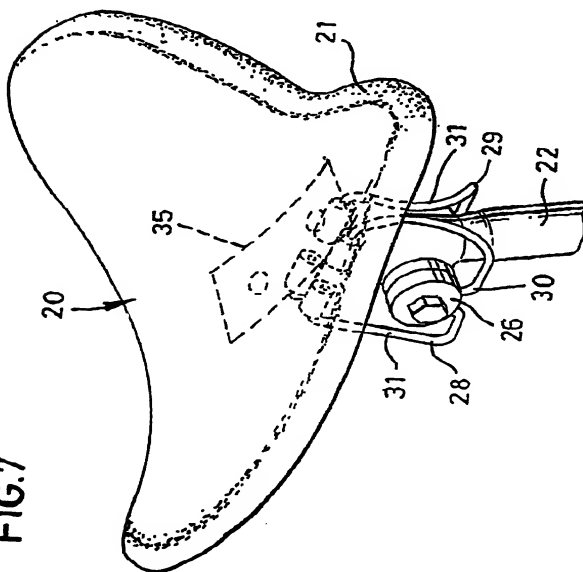
FIG.6



SUBSTITUTE SHEET (RULE 26)

09/914828-0001

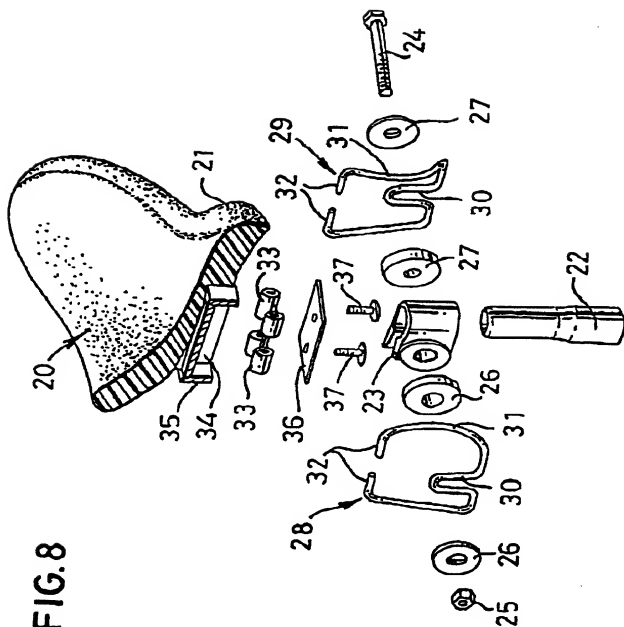
FIG.7



SUBSTITUTE SHEET (RULE 26)

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FIG. 8



SUBSTITUTE SHEET (RULE 26)

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FIG.9B

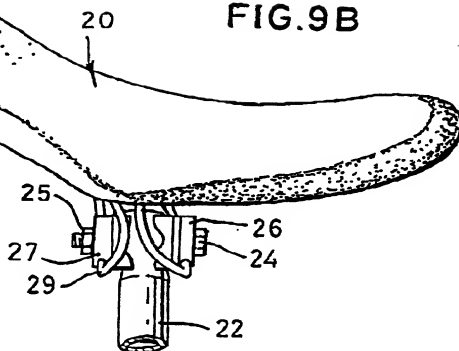
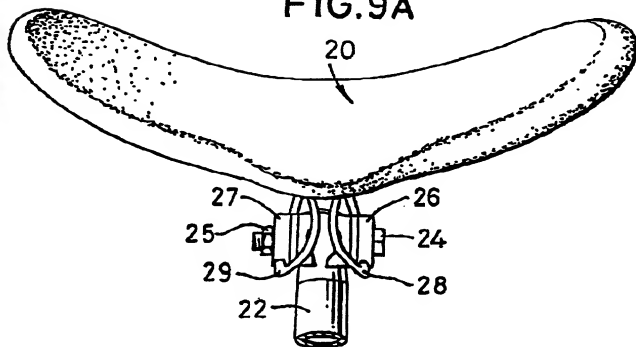


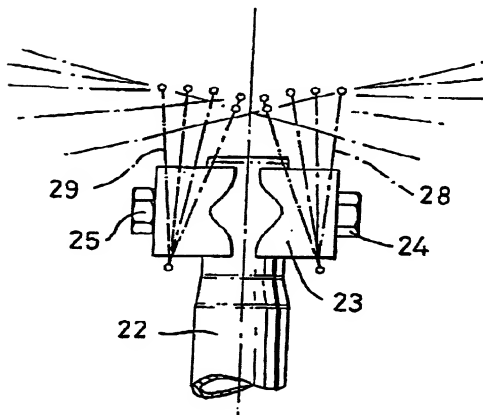
FIG.9A



SUBSTITUTE SHEET (RULE 26)

09/914828-1650

FIG.10



SUBSTITUTE SHEET (RULE 26)

COMBINED DECLARATION AND POWER OF ATTORNEY

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled

SADDLES FOR PEDAL OPERATED MACHINES

the specification of which

_____ is attached hereto.

_____ was filed on _____ as Application Serial No. _____ and was amended on _____.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, '1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, '119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Priority Claimed

99 04728.4	GB	3rd March 1999	X
Number	Country	Date Filed	Yes No
PCT/CB00/00774	PCT	3rd March 2000	X
Number	Country	Date Filed	Yes No

English Language Declaration

I hereby claim the benefit under Title 35, United States Code, '120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this

application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, '112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, '1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

PCT/GB00/00774

3rd March 2000

Application Ser. No.

Filing Date

Status

Application Ser. No.

Filing Date

Status

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

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DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereof.

SIGNATURE

1.00
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